

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Jeffrey R. BURY et al. Docket No. MBC-0511
Serial No. 10/787,507 Examiner: Kelechi EGWIM
Filed: February 26, 2004 Group Art Unit: 1796
Title: Strength Improvement Admixture

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January 19, 2010

(date)

APPELLANTS' REPLY BRIEF UNDER 37 C.F.R. § 41.41

Dear Sir:

This a Reply Brief submitted in response to the Examiner's Answer mailed November 17, 2009, which was in response to Appellants' Brief under 37 C.F.R. § 41.37 appealing to the Board of Patent Appeals and Interferences (the "Board") from the final rejection set forth in the Office Action mailed October 7, 2008.

The **Status of Claims** is on page 2.

The **Grounds of Rejection to be Reviewed on Appeal** is on page 3.

The **Argument** begins on page 4.

Status of Claims

The present application was filed on February 26, 2004 with original claims 1-50.

In response to the Restriction Requirement mailed by the Office on March 27, 2006, Appellants elected claims 1-32 (Group I) for prosecution in present patent application.

Claims 1, 3, 5-9, 12-17, 19-23 and 26-32 are currently under final rejection and constitute the claims on appeal.

Claims 2, 4, 10, 11, 18, 24, 25 and 33-50 have been cancelled.

Grounds of Rejection to be Reviewed on Appeal

The sole ground of rejection to be reviewed in the present appeal is the rejection of claims 1, 3, 5-9, 12-17, 19-23 and 26-32 under 35 U.S.C. § 102(e) in view of United States Patent Application Publication No. 2003/0127026A1 to Anderson et al.

Argument

Claims 1-3, 5-9, 12-17, 19-23 and 26-32 have been rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 2003/0127026 (“Anderson”). Appellants continue to respectfully traverse this rejection.

The Examiner’s Answer focuses on Table A of the Anderson reference as the sole basis for the 102(e) rejection of the pending claims. It is specifically alleged that Table A of the Anderson reference teaches an admixture comprising 20-30% polycarboxylate dispersant, 30-50% strength improvement additive (alleged to be polyhydroxylalkylamine) and 10-20% set retarder. See Office Action mailed December 5, 2006 at Page 3, Paragraph 7; July 27, 2007 Office Action at Page 3, Paragraph 5; June 2, 2008 Office Action at Page 2, Paragraph 2; and the Examiner’s Answer. This allegation is not correct.

The Anderson Reference

The Anderson reference discloses a high early-strength cementitious composition. The high early-strength cementitious composition comprises a hydraulic cement and a combination admixture system. The combination admixture system comprises a polycarboxylate dispersant, a set accelerator and a set retarder. The use of the combination admixture system provides a cementitious composition that can achieve a flexural strength of at least 400 psi and a compressive strength of at least 2200 psi within 4 hours after the composition has been placed. Because of the early high-strength development and predictable working time, the cementitious composition is useful where fast-setting cementitious compositions are desired.

The Anderson reference expressly discloses that “[T]he weight percentages of the components in the high early-strength composition of admixtures are preferably greater than 0 to about 5% retarder; about 5% to about 12% dispersant; and about 85% to about 95% accelerator based on the solids (dry) content. See Anderson at Paragraph 0156.

The Present Claims

The presently claimed strength improvement admixture and cementitious composition comprises about 5 to about 80% polycarboxylate dispersant, about 0.5 to about 40% set retarder, and about 0.5 to about 40% strength improvement additive. The ratio of the three admixture components (i.e., dispersant, retarder, strength improvement additive) are weight ratios based on the total dry weight of the admixture composition.

Anderson et al. Does Not Disclose A Strength Improvement Admixture

The Anderson reference discloses a composition of dispersant, set accelerator and a set retarder. Nowhere does the Anderson reference disclose or suggest the inclusion of a strength improvement additive.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Given the fact that Anderson does not disclose a strength improvement additive, as presently claimed by Appellants, there is no basis in fact and/or technical reasoning to support the determination that the feature of a set accelerator is an inherent characteristic that necessarily flows from the teachings of the applied art. In addition, Anderson does not teach, motivate or suggest to one having ordinary skill in the art the strength improvement additive. There is no clear direction, suggestion or teaching provided in Anderson that the polyhydroxylalkylamine is anything more than a traditional set accelerator.

In contrast to the present claims, the Anderson reference unequivocally discloses that the composition of admixtures includes **about 85% to about 95% accelerator.** To the extent that the Examiner has equated a set accelerator with the presently claimed strength improvement additive, it is clear that the Anderson reference clearly discloses at least 85% accelerator is required in the admixture, while the range of strength improvement additive in the admixture recited in the present claims is from 0.5 to 40%. Because the Anderson reference requires at least 85% accelerator in its composition of admixtures, which does not overlap with the presently claimed range of about 0.5% to about 40% strength improvement additive, Anderson does not anticipate either independent claims 1 or 15.

The Examiner's Answer alleges, in the Grounds of Rejection section at page 3, lines 10-13 of the Answer, that "[i]n Table A. Anderson et al. teaches 20-30% of the polycarboxylate dispersant, 30-50% polyhydroxylalkylamine accelerators and 10-20% of the set retarder, all of which are consistent with appellant's claimed ranges of about 0.5-80%, about 0.5-40% and about 0.5-40%, respectively." Appellants respectfully submit that this allegation is not correct.

Anderson discloses that the dispersant, set accelerator and set retarder are separate commercially available admixtures. Anderson discloses that suitable polycarboxylate dispersants are commercially available under the trademarks GLENIUM, ADVA, VISCOCRETE, or SUPLERFLUX, See Anderson at Page 3, Paragraph [0041]; that suitable set accelerators are commercially available under the trademarks POZZOLITH and RHEOCRETE, See Anderson at Page 7, Paragraph [0142]; and that suitable set retarders are commercially available under the trademark DELVO, See Anderson at Page 8, Paragraph [0156].

The solids content ranges set forth in Table A of Anderson do not specify the weight percentage of the each component of the composition of admixtures, based on the total dry weight of the admixture composition. More exactly, the ranges set forth in Table A of Anderson actually represent the "approximate solids content" of each individual, commercially available admixture component, before the individual admixture components are added to the cementitious mixture. The approximate solids content of each commercially available component of the

Anderson composition of admixtures, and the dosages of each component based on total dry weight of the presently claimed admixture are two entirely different and separate concepts. The general dosage ranges of Table A are measured in fluid ounces (a volume measurement).

Improper Mathematical Calculations Relied Upon by Examiner

The Answer alleges, in the Grounds of Rejection section at page 3, line 22 to page 4, line 3 of the Answer, that “the % ranges for the three components of the admixture based on the total admixture components are 1.6% to 87% for the dispersant (polycarboxylate polymers), 12% to 98% of the strength improving accelerator (polyhydroxyalkylamine) and 0.2 to 53% of set retarders, all of which are also consistent with appellant's claimed ranges of about 0.5-80%, about 0.5-40% and about 0.5-40%, respectively” with respect to the “General Dosage Range” exemplified in Column 3 of Table A in Anderson. Appellants respectfully submit that this allegation is not correct.

The mathematical calculations utilized the values denoted in the General Dosage Range in Table A – numbers of which represent a volume of liquid. Thus, the amounts of dispersant (1.6-87%), accelerator (12-98%) and retarder (10.2-53%) represent a volume-to-volume ratio and do not take into account correction for solids content or specific gravity of the liquids.

Accordingly, the Examiner improperly calculated the percentage ranges for the three component system of the admixture. The Examiner incorrectly multiplied volumes of liquids, which are not active amounts. Consequently, the Examiner conducted volume to volume calculations, yielding component percentages of the dispersant, accelerator and retarder that shown in liquid volumes relative to one another - they are not active amount relative to one another as required.

The Answer alleges, in the Response to Argument section at page 4, line 14 to 17 that “contrary to appellant's arguments, it is clear that the accelerator in Anderson, which represents the strength improvement additive in present claims, is taught to be present at 30-50%, based on

the "Approximate Solids Content" and 12% to 98%, based on the ratio from the "General Dosage Ranges". Appellants respectfully submit that this allegation is not correct.

Appellants wish to note that Table A does not provide any amounts pertaining to the ratios of components to one another. Nor does Table A reflect any amounts per cement for the individual components. As detailed in the Daczko declaration, filed with Appellants' Appeal Brief, Table A merely shows general dosage ranges for the components. It does not disclose ranges useful in the Anderson composition of admixtures. Accordingly, Table A cannot be considered independently of the express disclosure provided in Paragraph [0156] of Anderson. Table A represents virtually nothing (other than describing general information of the components) when standing on its own – it must be read in connection with Paragraph [0156]. When Table A is properly read in conjunction with Paragraph [0156], it becomes clear that the composition of admixtures of Anderson requires a high accelerator content.

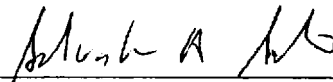
The Anderson reference is directed to a composition of commercially available admixture materials, namely, polycarboxylate dispersants (GLENIUM), set accelerators (POZZOLITH and RHEOCRETE), and set retarders (DELVO). Table A simply provides dosage ranges for the separate admixture products that may be used across a wide variety of end applications. Table A does not indicate a ratio of dispersant:accelerator:retarder for the early high-strength composition of admixtures. Thus, Table A does not refer to the dosage ratios for the polycarboxylate dispersant, set accelerator and set retarder present in the high early strength cementitious composition disclosed by Anderson. The amounts and ratios of the dispersant, accelerator and retarder are dictated solely by Paragraph [0156] of Anderson. As previously mentioned, the dosage ranges of Table A are reported as fluid ounces/100 lbs cement, while the weight percent of admixture components of Paragraph [0156] are reported at weight percent based on the total solid (dry) content of admixture components. The Examiner's incorrect calculations (based upon Table A) improperly convey the alleged teaching of Anderson. Table A does not describe the composition of components to achieve the level of performance in Anderson. Accordingly, without the disclosure provided in Paragraph [0156], Table A does not properly relate the individual components to one another on a dry weight basis.

Regardless of the general dosage ranges reported in Table A of Anderson, Paragraph [0156] still controls the amount of dispersant, accelerator and retarder to be included in the admixture composition. The general and preferred dosage ranges for the off-the-shelf products provided in Table A are only relevant when read in conjunction with the express teachings of Paragraph [0156]. One having ordinary skill in the art would read Anderson as requiring at least 85% percent accelerator in its admixture. There is no other possible interpretation of Paragraph [0156] and no other teachings in the Anderson reference regarding ratios of dispersant to accelerator to retarder. Furthermore, several examples disclosed by Appellants do not meet the high early-strength cementitious compositions as disclosed in Anderson due to low amounts of strength improvement additives. See Specification, Tables 1-11, pages 31-46.

Conclusion

Appellants submit that the remarks presented in Appellants' Appeal Brief under § 41.37, as well as the remarks presented hereinabove, address and rebut all existing allegations concerning the 35 U.S.C. 102(e) rejection of all pending claims. Appellants respectfully request the Board to reverse the rejection of these claims. Appellants further respectfully request the Board to reverse the Final Office Action in this case and to require the Examiner to indicate the allowability of the claims 1, 3, 5-9, 12-17, 19-23 and 26-32 over the art of record.

Respectfully submitted,



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